8-2: Inverses of Relations

Warm-up: Determine if each set of ordered pairs is a function.

1. {(3, 5), (5, 5), (7, 5), (9, 5)}

2. {(1, 1), (2, 4), (3, 9), (1, -1), (2, -4)}

Inverse of a relation:

Example 1: g = {(4, 3), (0, -1), (5, 2), (-8, -1)}

a. Identify the inverse of g. Call it f.

b. Is g a function? Is f a function?

***NOTICE:* Domain of g = range of f =

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Inverse of a Relation Theorem:

1.

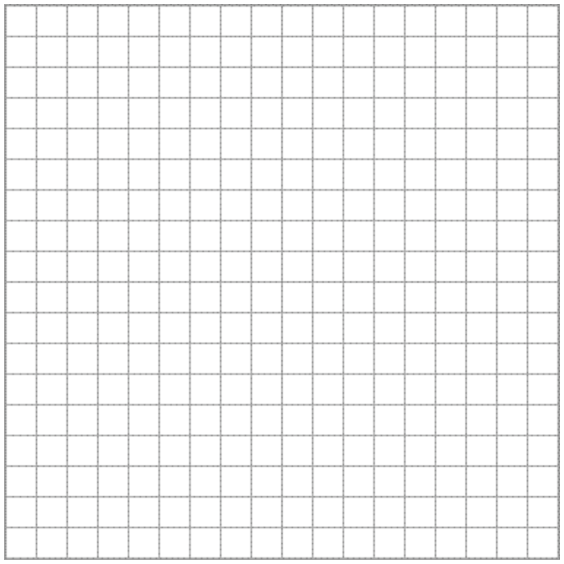
2.

3.

Example 2: Consider the function $y = 4x - 1$.

a. Find its inverse

b. Graph the two equations.



Theorem: Horizontal-Line Theorem

Example 3: Is the inverse of $y = x^2 - 3x + 2$ a function? How do you know?

Homework:

"Maybe it's easier to like someone else's life, and live vicariously through it, than take some responsiblity to change our lives into lives we might like". - Tish Grier